# 70013-00021

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Date: July 12, 2006

IN THE UNIT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

GARY S. SHUSTER

Serial No.:

09/932,431

For:

METHOD AND APPARATUS FOR IMPROVING BANDWIDTH EFFICIENCY

IN A COMPUTER NETWORK

Filed:

August 17, 2001

Group Art Unit:

2143

Mail Stop: Appeal Brief – Patents Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313-1450

Sir:

Enclosed herewith is an Amended Appeal Brief (in triplicate) for the above-identified application for which the requisite fee of \$250.00 has already been paid. Please charge any additional fees to Deposit Account 50-3683.

Applicant hereby requests a \_\_\_\_ month extension of time to submit this Appeal Brief and the fee of \$510.00 (at the Small Entity rate) herewith. Please charge Deposit Account 50-3683 for this

amount.

An Oral Hearing is requested. The fee of \$1,000 is enclosed herewith.

X The Commissioner is hereby authorized to charge payment of the fees associated with this

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CONNOLLY BOVE LODGE & HUTZ LLP

Date: July 12, 2006

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PATENT 70013.00021 (409475-40)

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

**GARY SHUSTER** 

Serial No.:

09/932,431

Filed:

August 17, 2001

Title: METHOD AND APPARATUS FOR IMPROVING BANDWIDTH EFFICIENCY IN A

COMPUTER NETWORK

AMENDED APPEAL BRIEF

Mail Stop Appeal Brief - Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir or Madam:

The appellant filed a Notice of Appeal in the above-identified application on December 5, 2005 under 35 U.S.C. § 134(a), and filed an Appeal Brief under 37 CFR 41.37 (hereinafter "Rule 41.37") on April 3, 2006. The present Amended Appeal Brief is provided in response to the Office Action mailed July 5, 2006, requiring correction of the Brief to include references to drawing figures in the Summary of the Claimed Subject Matter. The Amended Appeal Brief meets the substantive requirements of Rule 41.37.

The appellant requests entry, consideration, and favorable action on this appeal at the

Office's earliest convenience.

In accordance with Rule 41.37(c), the appellant presents the following items

under the headings prescribed therein.

Real Party in Interest

Ideaflood, Inc., a Nevada corporation, owns the subject application.

Related Appeals and Interferences

Neither the assignee nor the appellant are aware of any other appeals or

interferences that would bear on the Board's decision in this appeal.

**Status of Claims** 

On December 5, 2005, the appellant filed a Notice of Appeal from the final

rejections of pending Claims 21-36 as stated in the Official Action mailed on June 3,

2005 (hereinafter the "Final Action"). Claims 1-20 were previously cancelled. All of

Claims 21-36 have been finally rejected.

**Status of Amendments** 

An after-final amendment was submitted by appellant on December 5, 2005, and

has been entered as noted in the Advisory Action mailed December 28, 2005. No

amendments have been denied entry.

**Summary of Claimed Subject Matter** 

The invention is directed to a system and method for operating a server group to

improve bandwidth efficiency in a computer network. The computer network includes a

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particular steps of:

the server group operable to transmit files between the server group and destinations on the computer network through a communication link having a finite bandwidth. Priorart methods for managing bandwidth created a bottleneck at the gateway point for network traffic. The invention solves this problem by monitoring bandwidth usage downstream at a common communication link, and implementing traffic control measures upstream at the data source, using two separate applications in communication with each other. The method as defined by claim 21 comprises the

- A. Monitoring bandwidth usage of a communication link for connecting a server group to a wide area network, using software operably associated with the communication link. Page 4, lines 9-11; page 7, lines 3-5; page 8, lines 13-17; page 10, lines 3-7; Fig. 2, item 105.
- B. Distributing a rule set to individual servers of the server group, wherein the rule set defines rules for limiting serving of data from the individual servers depending on file type and a current state of the bandwidth usage. Page 5, lines 10-13; page 10, lines 15-17; Fig, 2, item 125.
- C. Characterizing files stored in operable association with the individual servers according to type, using software operating on the

individual servers. Page 5, lines 5-10; page 10, line 26 – page 11, line 17; see Fig. 1, items 16, 17.

- D. Informing the individual servers of the current state of the bandwidth usage as monitored by the software operably associated with the communication link. Page 10, lines 15-17; see Fig. 2, items 120, 125.
- E. Serving the files from the individual servers to the wide area network via the communication link in compliance with the rule set, so as to limit serving of specified file types from the servers during periods when the bandwidth usage exceeds a threshold amount relative to a finite bandwidth of the communication link. Page 8, lines 9-12; page 10, lines 15-17; Fig. 2, item 130.

Claim 29 defines essentially the same subject matter as claim 21, but in system form.

The system as defined by Claim 29 comprises:

- A. A plurality of servers operable to connect to a computer network through a communication link having a finite bandwidth. Page 6, line 18 page 7, line 20; Fig. 1, item 16.
- B. First program instructions operably associated with the communication link to perform the steps of (a) monitoring bandwidth usage of the communication link (page 4, lines 9-11; page 7, lines 3-5; page 8, lines 13-17; page 10, lines 3-7; Fig. 2, item 105), (b) distributing a

rule set to each of the plurality of servers, wherein the rule set defines rules for limiting serving of data from each of the plurality of servers depending on file type and a current state of the bandwidth usage (page 5, lines 10-13; page 10, lines 15-17; Fig, 2, item 125), and (c) informing each of the plurality of servers of a current state of the bandwidth usage (page 10, lines 15-17; see Fig. 2, items 120, 125). See generally Fig. 1, item 12.

C. Second program instructions operably associated with each of the plurality of servers to perform the steps of (d) characterizing files stored in operable association with each of the plurality of servers according to type (page 5, lines 5-10; page 10, line 26 – page 11, line 17; see Fig. 1, items 16 and 17), and (e) serving the files from each of the plurality of servers to the wide area network via the communication link in compliance with the rule set, so as to limit serving of specified file types from the servers during periods when the bandwidth usage exceeds a threshold amount relative to a finite bandwidth of the communication link (page 8, lines 9-12; page 10, lines 15-17; Fig. 2, item 130).

Although not required by Rule 41.37(c), a summary of certain dependent claims is provided below, with references to page and line numbers in the specification:

As further defined by Claims 24 and 32, "crawling through a memory operably associated with the individual server to identify associated groups of files, wherein each of the groups of files is configured to be aggregated into a larger file." Page 9, lines 19-25; page 10, line 26 – page 11, line 6.

As further defined by Claims 25 and 33, "crawling through files stored in a storage device operably associated with the individual server to identify files that do not contain hyperlinks and are not identified by hyperlinks in other files stored by the storage device." Page 11, lines 9-15.

As further defined by Claims 27 and 35, "distributing a replacement rule set to individual servers of the server group when the current state of the bandwidth usage changes by more than a specified amount, wherein the replacement rule set replaces the rule set and defines rules for limiting serving of data from the individual servers depending on file type and a current state of the bandwidth usage." Page 5, lines 14-19; page 10, lines 3-19.

The remaining claims are not separately discussed herein. For a summary of the grouping of the claims for the purpose of this appeal, see the section titled "Grouping of the Claims" herein below.

**Grounds of Rejection To Be Reviewed on Appeal** 

Claims 21-36 stand rejected under 35 U.S.C. § 102(e) over Rakoshitz (U.S. Pat.

No. 6,578,077). This ground of rejection is to be reviewed on appeal. No other grounds

for rejection have been set forth.

Argument

For the convenience of argument, the appealed claims are grouped as set forth

below.

Group I:

Claims 21-23, 26, 28-31, 34 and 36;

Group II:

Claims 24 and 32;

Group III:

Claim 25 and 33;

Group IV:

Claims 27 and 35.

The claims within each of the above groups stand or fall together with respect to

the pending rejections. In addition, the claims of Groups II – IV respectively stand, but

do not fall, together with the claims for Group I. If the claims were to be rejected on

grounds other than presently pending, the above groupings may not apply. In the

arguments below, the appellants present reasons why each group of claims is

separately patentable over the cited references.

The Final Action rejected all of the pending claims based on anticipation.

"Anticipation under 35 USC §102(e) requires that 'each and every element as set forth

in the claim is found, either expressly or inherently described, in a single prior art

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reference." In re Robertson, 49 USPQ 1949, 1950 (Fed.Cir. 1999); Titanium Metals Corp. v. Banner, 227 USPQ 773 (Fed. Cir. 1985). There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. §102. Scripps Clinic and Research Foundation v. Genentech, Inc., 18 USPQ2d 1001 (Fed. Cir. 1991). To properly anticipate a claim, the reference must teach every element of the claim. See MPEP § 2131. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference". Verdegaal Bros. v. Union Oil Co. of Calif., 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ...claim." Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). In determining anticipation, no claim limitation may be ignored. The applied art of Rakoshitz does not meet this threshold burden.

## A. Group I

The appellant respectfully submits that the § 102(e) rejections of the Group I claims as unpatentable over Rakoshitz are deficient. Rakoshitz fails to disclose, either expressly or inherently, several features recited in independent Claims 21 and 29 as required by MPEP § 2131 and legal precedents discussed above.

Rakoshitz discloses an invention for providing "network or firewall administrators with the ability to implement policy-based schema for security and resource management on firewall platforms." Col. 3, lines 63-66. Rakoshitz consistently

discloses implementing traffic management tools at a gateway point to the Internet or other wide area network, as exemplified below:

- (a) [T]he present invention provides a single point or a single region to manage telecommunication traffic including directory services and bandwidth management. Additionally, in some, if not all embodiments, the present invention can be implemented at a single point of access such as a computer terminal or firewall" Col. 3, lines 17-23.
- (b) The present invention can be embodied as a TrafficWare™ firewall server 110 from Ukiah Software, Inc., but can be others. Col. 6, lines 3-5; Fig. 1.
- (c) The [bandwidth management] tool 405 is coupled between the ISP LAN and router 407, which is connected to the Internet 409. Col. 11, lines 11-13.
- (d) The present [bandwidth management] tool 505 is coupled between LAN 501 and router 507, which is connected to the Internet 509. Col. 11, lines 22-24.
- (e) A bandwidth management tool 605 is coupled between campus network 601 and router 607, which is coupled to Internet 609. Col. 11, lines 36-38.
- (f) Each connection or child includes a router 705A, E, D, C and the present [bandwidth management] tool 703A, E, D, C which is coupled between the router and the hub ("HQ"). Col. 11, lines 52-54.
- (g) In general, a flow of information or data or packets of information enter a gateway point, where the present tool sits. Col. 15, lines 58-60.
- (h) The bandwidth management tool is implemented as a tool coupled to a single application-programming interface (API). Col. 9, lines 18-23; Fig. 2.

At most, Rakoshitz discloses that the bandwidth management tool may be "deployed at any appropriate point in the network data path." Col. 9, lines 33-34. It is therefore limited to disclosing deploying the software only at a **single** point, generally a gateway point. Col. 15, lines 58-60. It does not disclose distributing different

interoperable bandwidth management modules at different network locations. It fails to disclose, either expressly or inherently, the combination of steps defined by claim 21, namely:

monitoring bandwidth usage of a communication link for connecting a server group to a wide area network, using software operably associated with the communication link;

distributing a rule set to individual servers of the server group, wherein the rule set defines rules for limiting serving of data from the individual servers depending on file type and a current state of the bandwidth usage;

characterizing files stored in operable association with the individual servers according to type, using software operating on the individual servers:

informing the individual servers of the current state of the bandwidth usage as monitored by the software operably associated with the communication link

These claims define first software "operably associated with the communication link" that performs a function of monitoring a current state of bandwidth usage, and second "software operating on the individual servers" that performs the function of characterizing files by type. These must be deployed as separate software, because the first is associated with a communication link for the entire software group, while the second operates on individual servers of the group. Therefore, the software cannot be deployed at a single point, as defined by claim 21. Rakoshitz does not disclose this configuration, disclosing instead a single tool deployed through a common API at a gateway point. See, e.g., col. 9, lines 18-23; Fig. 2.

Likewise, Rakoshitz does not disclose the step of "distributing a rule set to individual servers of a server group." Again, disclosing only deployment of the tool at a

single point, Rakoshitz does not disclose distributing a rule set to multiple servers based on bandwidth usage monitored at a common communication link for the group.

Essentially the same limitations are defined in claim 29, albeit in system form:

first program instructions operably associated with the communication link to perform the steps of (a) monitoring bandwidth usage of the communication link, (b) distributing a rule set to each of the plurality of servers, wherein the rule set defines rules for limiting serving of data from each of the plurality of servers depending on file type and a current state of the bandwidth usage, and (c) informing each of the plurality of servers of a current state of the bandwidth usage; and

second program instructions operably associated with each of the plurality of servers to perform the steps of (d) characterizing files stored in operable association with each of the plurality of servers according to type, and (e) serving the files from each of the plurality of servers to the wide area network via the communication link in compliance with the rule set, so as to limit serving of specified file types from the servers during periods when the bandwidth usage exceeds a threshold amount relative to a finite bandwidth of the communication link.

Thus, claim 29 clearly defines separate software operating on different system elements to different functions of bandwidth management. As noted above, Rakoshitz discloses performing all bandwidth management through a common API at a single gateway location. Rakoshitz fails to disclose, either expressly or inherently, the distribution of separate software elements as defined by claim 29.

Therefore, failing to disclose or suggest all the claimed elements of claims 21 and 29 and their respective dependent claims, Rakoshitz presents no bar to patentability of these claims under § 102.

## B. Group II

In addition to being allowable as depending from one of allowable base claims 21 or 29, claims 24 and 32 are independently allowable. Rakoshitz fails to disclose all the limitations of these claims.

These claims define "crawling through a memory operably associated with the individual server to identify associated groups of files, wherein each of the groups of files is configured to be aggregated into a larger file." Rakoshitz merely discloses classifying data by various criteria, including by file size. See, e.g., col. 15, line 57 – col. 16, line 10. However, the action of identifying associated groups of files configured to be aggregated into a larger file is neither disclosed by Rakoshitz, nor inherent in application of any of the various criteria for classifying data that Rakoshitz discloses. For example, the present application provides one example of this action in the identification of sequentially numbered files. Page 9, lines 25-27. Rokoshitz discloses nothing of this nature, nor does it even acknowledge the existence of files configured to be aggregated into larger files or any problems that such files can cause.

Rakoshitz further fails to disclose the action of "crawling through a memory associated with an individual server." Instead, Rakoshitz teaches that the bandwidth management tool is used to analyze data flow as it passes through a gateway point. Col. 15, lines 57-61. As used in the specification and as would be understood in the art, "crawling" is distinct from analyzing data as it passes through a gateway. See

Application at page 5, lines 9-10. Specifically, to "crawl" is to search a "file storage

memory of a web server to classify files found there." Page 10, lines 28-29. Rakoshitz

does not teach crawling for bandwidth management, or for any purpose.

Therefore, failing to disclose or suggest all the claimed elements of claims 24

and 32, Rakoshitz presents no bar to patentability of these claims under § 102, for this

additional reason.

C. Group III

In addition to being allowable as depending from one of allowable base claims 21

or 29, claims 25 and 33 are independently allowable because Rakoshitz fails to disclose

all the limitations of these claims.

These claims define "crawling through files stored in a storage device operably

associated with the individual server to identify files that do not contain hyperlinks and

are not identified by hyperlinks in other files stored by the storage device." As noted in

connection with the Group III claims, Rakoshitz does not disclose the action of "crawling"

through files stored in a storage device." Therefore, Rakoshitz cannot anticipate these

claims.

In addition, Rakoshitz fails to disclose any action of specifically identifying files

that do not contain hyperlinks and are not identified by hyperlinks in other files stored by

the storage device. The application teaches that such unlinked data is likely to be low

priority or illicit. Page 11, lines 9-15. Rakoshitz does not even recognize this problem,

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and does not disclose identifying unlinked files, for any reason. Indeed, the approach

disclosed by Rakoshitz - analyzing data as it passes through a gateway - is plainly not

suited for the task of comparing relationships between files stored by a particular

storage device.

Therefore, failing to disclose or suggest all the claimed elements of claims 25

and 33, Rakoshitz presents no bar to patentability of these claims under § 102, for this

additional reason.

D. Group IV

In addition to being allowable as depending from one of allowable base claims 21

or 29, Claims 27 and 35 are independently allowable. These claims additionally define

"distributing a replacement rule set to individual servers of the server group when the

current state of the bandwidth usage changes by more than a specified amount,

wherein the replacement rule set replaces the rule set and defines rules for limiting

serving of data from the individual servers depending on file type and a current state of

the bandwidth usage." Rakoshitz fails to disclose these limitations.

As noted with respect to the claims in Group I, Rakoshitz consistently discloses

implementing traffic management tools at a gateway point to the Internet or other wide

area network. That is, Rakoshitz discloses deploying the software only at a single

point, generally a gateway point. Col. 15, lines 58-60. Therefore, Rakoshitz does not

expressly or inherently disclose "distributing a replacement rule set to individual servers

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of the server group." In the system disclosed by Rakoshitz, no such distribution can or need occur because the bandwidth management tool is implemented at a single gateway point. Rakoshitz discloses that "[t]he tool can be deployed at any appropriate point in the network data path," expressly limiting deployment to a single point. Rakoshitz nowhere discloses distributing a rule set to a plurality of individual servers in a server group.

Separating the bandwidth monitoring from the traffic management functions in the claimed fashion should provide the benefit of increasing system throughput. The bottleneck of managing traffic at a gateway point is removed, and traffic is managed upstream, at the individual server level. The replacement rule set "defines rules for limiting serving of data from the individual servers depending on file type and a current state of the bandwidth usage." The bandwidth usage may be communicated from a downstream monitoring point, such as at a gateway to the server group. Thus, these claims define a method and system in which monitoring and managing are separately performed, and the rule sets employed at the upstream servers are replaced as conditions change.

Therefore, failing to disclose or suggest all the claimed elements of claims 27 and 35, Rakoshitz presents no bar to patentability under 35 U.S.C. § 102.

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Conclusion

Appellants respectfully request the reversal of the rejection of currently pending

Claims 21-36, and allowance of these claims forthwith, for the reasons set forth above.

**Appendix** 

Appealed Claims 21-36 are attached hereto as Appendix A. Evidence for

consideration in this appeal is attached hereto as Appendix B.

Respectfully submitted,

Date: July 11, 2006

Jonathan Jaech Attorney for Applicant Registration No. 41,091

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PATENT TRADEMARK OFFICE

#### **APPENDIX A**

#### APPEALED CLAIMS

1-20. (Canceled)

21. (Previously presented) A method for operating a server group to improve bandwidth efficiency in a computer network, wherein the server group is operable to transmit files between the server group and destinations on the computer network through a communication link having a finite bandwidth, the method comprising:

monitoring bandwidth usage of a communication link for connecting a server group to a wide area network, using software operably associated with the communication link;

distributing a rule set to individual servers of the server group, wherein the rule set defines rules for limiting serving of data from the individual servers depending on file type and a current state of the bandwidth usage;

characterizing files stored in operable association with the individual servers according to type, using software operating on the individual servers;

informing the individual servers of the current state of the bandwidth usage as monitored by the software operably associated with the communication link; and

serving the files from the individual servers to the wide area network via the communication link in compliance with the rule set, so as to limit serving of specified file types from the servers during periods when the bandwidth usage exceeds a threshold amount relative to a finite bandwidth of the communication link.

22. (Previously presented) The method of Claim 21, wherein the characterizing step further comprises assigning a type to each of the files based on a corresponding file name for each file.

- 23. (Previously presented) The method of Claim 22, wherein the characterizing step further comprises characterizing a type of each of the files based on a corresponding file name extension for each file.
- 24. (Previously presented) The method of Claim 21, wherein the characterizing step further comprises crawling through a memory operably associated with the individual server to identify associated groups of files, wherein each of the groups of files is configured to be aggregated into a larger file.
- 25. (Previously presented) The method of Claim 21, wherein the characterizing step further comprises crawling through files stored in a storage device operably associated with the individual server to identify files that do not contain hyperlinks and are not identified by hyperlinks in other files stored by the storage device.
- 26. (Previously presented) The method of Claim 21, wherein the serving step further comprises selecting a rule from the rule set according to the current state of the bandwidth usage.
- 27. (Previously presented) The method of Claim 21, further comprising distributing a replacement rule set to individual servers of the server group when the current state of the bandwidth usage changes by more than a specified amount, wherein the replacement rule set replaces the rule set and defines rules for limiting serving of data from the individual servers depending on file type and a current state of the bandwidth usage.
- 28. (Previously presented) The method of Claim 21, further comprising repeating the informing step at periodic intervals.

29. (Previously presented) A system for operating a plurality of servers to improve bandwidth efficiency in a computer network, the system comprising:

a plurality of servers operable to connect to a computer network through a communication link having a finite bandwidth; and

first program instructions operably associated with the communication link to perform the steps of (a) monitoring bandwidth usage of the communication link, (b) distributing a rule set to each of the plurality of servers, wherein the rule set defines rules for limiting serving of data from each of the plurality of servers depending on file type and a current state of the bandwidth usage, and (c) informing each of the plurality of servers of a current state of the bandwidth usage; and

second program instructions operably associated with each of the plurality of servers to perform the steps of (d) characterizing files stored in operable association with each of the plurality of servers according to type, and (e) serving the files from each of the plurality of servers to the wide area network via the communication link in compliance with the rule set, so as to limit serving of specified file types from the servers during periods when the bandwidth usage exceeds a threshold amount relative to a finite bandwidth of the communication link.

- 30. (Previously presented) The system of Claim 29, wherein the second program instructions are further operable to perform the characterizing step by characterizing a type of each of the files based on a corresponding file name extension for each file.
- 31. (Previously presented) The system of Claim 30, wherein the second program instructions are further operable to perform the characterizing step by characterizing a type of each of the files according to a corresponding file name extension for each file.

- 32. (Previously presented) The system of Claim 29, wherein the second program instructions are further operable to perform the characterizing step by crawling through a storage device operably associated with the server to identify associated groups of files, wherein each of the groups of files is configured to be aggregated into a larger file.
- 33. (Previously presented) The system of Claim 29, wherein the second program instructions are further operable to perform the characterizing step by crawling through files stored in a storage device operably associated with the server to identify files that do not contain hyperlinks and are not identified by hyperlinks in other files of the storage device.
- 34. (Previously presented) The system of Claim 29, wherein the second program instructions are further operable to perform the serving step by selecting a rule from the rule set according to the current state of the bandwidth usage.
- 35. (Previously presented) The system of Claim 29, wherein the first program instructions are further operable to distribute a replacement rule set to each of the plurality of servers when the current state of the bandwidth usage changes by more than a specified amount, wherein the replacement rule set replaces the rule set and defines rules for limiting serving of data from each of the plurality of servers depending on file type and a current state of the bandwidth usage.
- 36. (Previously presented) The system of Claim 29, wherein the first program instructions further operable to repeat the informing step at periodic intervals.

## **APPENDIX B**

## **EVIDENCE**

NONE.